




# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,227	11/15/2000	Noriko Kawai	1035-291	8669
23117	7590	08/25/2004	EXAMINER	
NIXON & VANDERHYE, PC 1100 N GLEBE ROAD 8TH FLOOR ARLINGTON, VA 22201-4714			NORRIS, JEREMY C	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b>	Application No. 09/712,227	Applicant(s) KAWAI ET AL.	
	Examiner Jeremy C. Norris	Art Unit 2827	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 09 August 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY [check either a) or b)]**

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
  - (b) ☐ they raise the issue of new matter (see Note below);
  - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
  - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: 6,21-23,27 and 31.

Claim(s) objected to: \_\_\_\_\_.

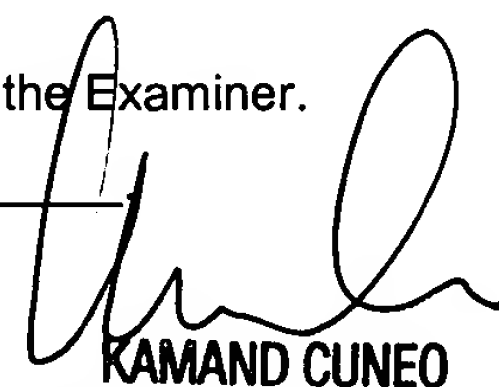
Claim(s) rejected: 4,5,18-20,24-26,29 and 30.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_

10. ☐ Other: \_\_\_\_\_

  
**KAMAND CUNEO**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 9 August 2004 have been fully considered but they are not persuasive. Applicants argue that the Examiner's combination of Armezzani (US 5,818,697) and Inaba (US 5,408,052) was improper for the following reasons:

1) Adding the adhesive of Inaba between the solder mask and the solder pad apertures "would destroy the functionality of Armezzani's device and would prevent the objectives of Armezzani's solder mask from being achieved", and

2) "When made of a dry film, Armezzani's masks are formed on both major surfaces of a base material by photolithography. In contrast, according to claim 4, the protecting films are molded first before being attached to a substrate. Thus Armezzani is significantly different in at least this regard."

3) "Inaba only discloses adhering a non-optical-curing synthetic resin film using an adhesive. Unlike Inaba's film, the Armezzani film is optically curing and does not need an adhesive. Thus, one of ordinary skill in the art would never have used Inaba's adhesive in the device of Armezzani's because Armezzani's film is optically curing (sic) and does not need an adhesive. There is no reason why anyone of ordinary skill in the art would have used an adhesive to bond a film to a substrate where the film did not need an adhesive, and where the presence of such an adhesive may even harm adhesion."

Regarding assertion 1), Applicants' argue that the functionality of the solder mask in the invention of Armezzani would be destroyed with the addition of the

Art Unit: 2827

adhesive of Inaba because the adhesive would “melt during high reflow temperatures, weaken any solder joint, reduce conductivity of the solder and a cause device failure, and cause corrosion therein”. However, this is an incorrect interpretation of the modified invention of Armezzani. Armezzani discloses that the solder is to be tin-lead eutectic solder or some other solder with a low reflow temperature (see col. 6, lines 1-10). One of ordinary skill in the art would select any of a number of known adhesives, such as the high temperature epoxies disclosed by Armezzani (see col. 2, lines 55-65), to avoid having the adhesive turn liquidous during a solder reflow operation. Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Therefore, Applicants’ alleged destruction of Armezzani would not occur.

Regarding assertion 2), Applicants’ argue that the claimed invention is different from the prior art because in the prior art, the films are patterned by photolithography whereas in the claimed invention they are molded first. However, this amounts to a process limitation in a product claim and thus is considered only to the extent to which this process impacts the claimed structure. Applicants’ have stated no *structural* (emphasis added) difference between the claimed invention and the prior art, so rejection over the prior art is proper. Furthermore, it is well settled that the presence of process limitations in product claims, which product does not otherwise distinguish over the prior art, cannot impart patentability to that product. (*In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985))

Regarding assertion 3) Applicants' argue that Armezzani would not require an adhesive and that furthermore, addition of such an adhesive would actually reduce adhesion. Applicants' make this claim because Armezzani discloses using an optically curing film for the mask. However, Applicants have only considered one preferred embodiment of the invention of Armezzani. Armezzani additionally teaches that the solder mask may comprise an epoxy based dry film (see col. 5, lines 20-30). With this embodiment, an additional adhesive would only serve to *promote* adhesion between the base material and the solder mask. Therefore, this would be a desirable quality that would be reasonably suggested to one of ordinary skill in the art by the combined teachings of Armezzani and Inaba.

Having addressed each of Applicants' assertions, the Examiner deems the traversal of the Final Rejection of the Office Action mailed 7 June 2004 on these grounds to be unsuccessful.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2827

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCSN